

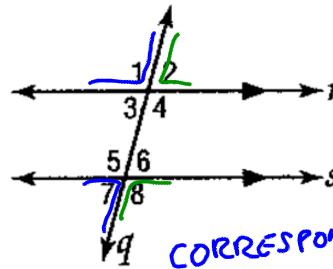
Section 3.3 - Proving Lines Parallel Target 3E

Line q is the transversal

If $\text{line } r \parallel \text{line } s$

$$\angle 1 \cong \angle 4 \cong \angle 5 \cong \angle 8$$

$$\angle 2 \cong \angle 3 \cong \angle 6 \cong \angle 7$$



Converse to these properties:

If

$$\angle 1 \cong \angle 4 \cong \angle 5 \cong \angle 8$$

$$\angle 2 \cong \angle 3 \cong \angle 6 \cong \angle 7$$

$\text{line } r \parallel \text{line } s$

CONSECUTIVE INT. ANGLES

CONSECUTIVE EXT. \angle s

CORRESPONDING \angle s

ALT. INT. \angle s

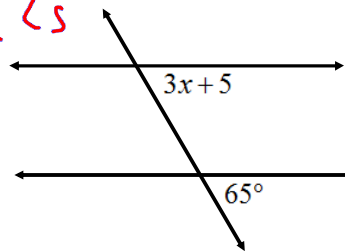
ALT. EXT. \angle s

Solve Algebraically:

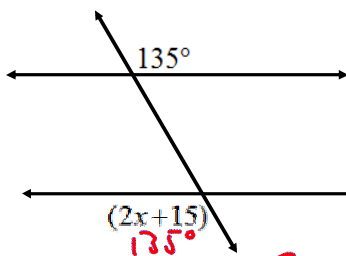
1. Find the value for x that makes the two lines parallel.

CORRESPONDING \angle s

$$\begin{array}{r} 3x+5=65 \\ -5 \quad -5 \\ \hline 3x=60 \\ \frac{3}{3} \quad \frac{3}{3} \\ x=20 \end{array}$$



2.



ALT. EXT. \angle s

$$\begin{array}{r} 2x+15=135 \\ -15 \quad -15 \\ \hline 2x=120 \\ \frac{2}{2} \quad \frac{2}{2} \\ x=60^\circ \end{array}$$

Section 3.3 - Proving Lines Parallel Target 3E

Solve
Algebraically:

3. Find the value for x that makes the two lines parallel.

$$(3x - 15) + 150 = 180^\circ$$

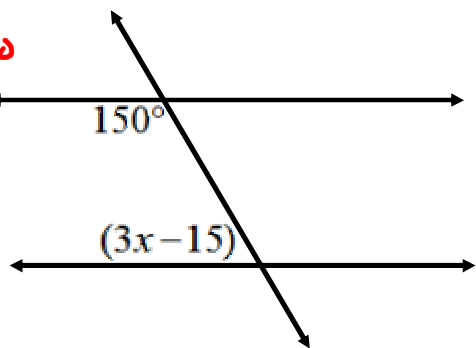
$-150 \quad -150$

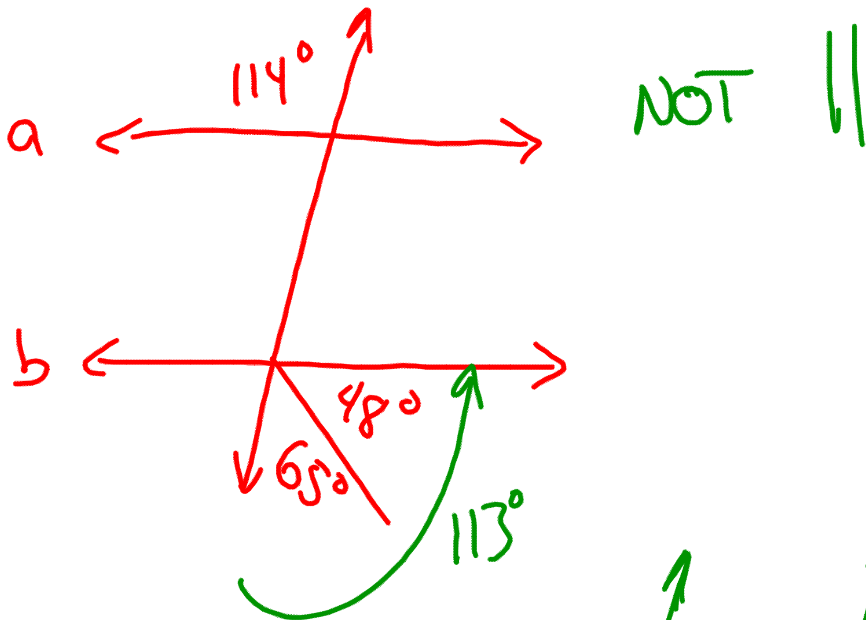
$$3x - 15 = 30$$

$+15 \quad +15$

$$\frac{3x}{3} = \frac{45}{3}$$

$$x = 15$$





a & b
CONSEC. EXT. \angle s
 $= 180^\circ$
 $a \parallel b$

c & d
CORRESPONDING
 \angle s
 $c \parallel d$

